

Notice of Allowability

Application No.

10/726,230

Examiner

Andy Huynh

Applicant(s)

KOSCIELNIAK, WACLAW C.

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2818

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Preliminary Amendment filed 12/01/2003.
2. ☒ The allowed claim(s) is/are 1-4.
3. ☒ The drawings filed on 01 December 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 12/01/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.



David Nelms
Supervisory Patent Examiner
Technology Center 2800

DETAILED ACTION

In the Preliminary Amendment dated December 01, 2003, Applicant has amended the specification and canceled claims 5-6 is acknowledged. Accordingly, claims 1-4 remain pending in the application, which is a divisional of application Serial No. 10/212,392, filed August 5, 2002, USP 6,713,814 dated March 30, 2004.

Allowable Subject Matter

Claims 1-4 are allowed.

The following is an examiner's statement of reason for allowance: The prior art of record fails to teach or suggest the limitation recited a method of fabricating a double diffused MOS (DMOS) transistor structure, the method comprising: forming a trench trough in the epitaxial silicon layer such that one of the walls of the trench trough comprises exposed epitaxial silicon and remaining walls of the trench trough comprise dielectric isolation material; performing a trench trough implant to introduce dopant of the second conductivity type into the epitaxial silicon layer under the trench trough to form a connection region having the second conductivity type that extends into contact with the well region and introduces dopant of the second conductivity type into the epitaxial silicon sidewall of the trench trough as claimed in independent claim 1; and a method of fabricating a double diffused MOS (DMOS) transistor structure, the method comprising: forming a trench trough in the epitaxial layer such that one of the walls of the trench trough comprises exposed epitaxial silicon and remaining walls of the trench trough comprise dielectric isolation material; performing a trench trough implant to introduce N-type dopant into the epitaxial layer under the trench trough to form a N-type

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connection region that extends into contact with the N-well region and introduces N-type dopant into the epitaxial silicon sidewall of the trench trough as claimed in independent claim 3. The gate trench trough and trench implant provide a novel method of forming the drain extension of a high-voltage DMOS device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy Huynh whose telephone number is (571) 272-1781. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



AH

04/27/04



David Nelms
Supervisory Patent Examiner
Technology Center 2800